

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

San Diego, California

## **INFORMATION DISCLOSURE STATEMENT**

In accordance with 37 C.F.R. § 1.56, Applicants make the documents listed on the enclosed form PTO/SB/08 (submitted in duplicate) of record in the above-identified application. In accordance with 37 C.F.R. § 1.97, this statement is not to be construed as a representation that a search has been made, and is not a representation that the information cited is effective as prior art to the application or is material to patentability.

Copies of the U.S. patents and U.S. patent application publications listed on the enclosed form PTO/SB/08 are not enclosed, in accordance with the waiver of the requirement of 37 C.F.R. § 1.98(a)(2)(i) for submitting a copy of each cited U.S. patent and U.S. patent application publication for all U.S. national patent applications filed after June 30, 2003 that appears in the Official Gazette Notice (Week No. 31) dated August 5, 2003 and entitled "Information Disclosure Statements May Be Filed Without Copies of U.S. Patents and Published Applications in Patent Applications Filed After June 30, 2003".


The foreign patent documents and non-patent literature listed on the enclosed form PTO/SB/08 were cited in earlier application Serial No. 10/633,174. Therefore, in accordance with 37 C.F.R. § 1.98(d), a copy of these documents and literature listed on the enclosed form PTO/SB/08 are not enclosed. However, enclosed please find four newly-listed non-patent literature references for consideration.

It is respectfully requested that the documents listed on the enclosed form PTO/SB/08 be (1) fully considered by the U.S. Patent and Trademark Office in the examination of the above-identified application; and (2) printed on any patent which may issue on this application. It is also respectfully requested that a copy of the enclosed form PTO/SB/08, as considered and initialed by the Examiner, be returned to the undersigned with the next communication in accordance with M.P.E.P. § 609.

This Information Disclosure Statement is filed within three months of the filing date of the above-identified application, pursuant to 37 C.F.R. 1.97(b). Therefore, it is believed that no fee is required in connection with this submission.

Respectfully submitted

2-18-2004  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1

of 4

**Complete if Known**

Application Number	to be assigned
Filing Date	February 18, 2004
First Named Inventor	John Santhoff et al.
Art Unit	to be assigned
Examiner Name	to be assigned
Attorney Docket Number	048CIP-120

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 3,668,639	06-06-1972	Harmuth	
		US- 3,678,204	07-18-1972	Harmuth	
		US- 3,728,632	04-17-1973	Ross	
		US- 4,641,317	02-03-1987	Fullerton	
		US- 4,979,186	12-18-1990	Fullerton	
		US- 5,146,616	09-08-1992	Tang et al.	
		US- 5,363,108	11-08-1994	Fullerton	
		US- 5,677,927	10-14-1997	Fullerton et al.	
		US- 5,687,169	11-11-1997	Fullerton	
		US- 5,748,891	05-05-1998	Fleming et al.	
		US- 5,920,278	07-06-1999	Tyler et al.	
		US- 6,002,708	12-14-1999	Fleming et al.	
		US- 6,026,125	02-15-2000	Larrick, Jr. et al.	
		US- 6,031,862	02-29-2000	Fullerton et al.	
		US- 6,178,217 B1	01-23-2001	Defries et al.	
		US- 6,275,544 B1	08-14-2001	Aiello et al.	
		US- 6,281,784 B1	08-28-2001	Redgate et al.	
		US- 6,505,032 B1	01-07-2003	McCorkle et al.	
		US- 6,539,213 B1	03-25-2003	Richards et al.	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
		WO 01/39451 A1	05-31-2001	Multispectral Solutions, Inc		
		WO 01/93434 A2	12-06-2001	XtremeSpectrum, Inc		
		WO 02/31986 A2	04-18-2002	XtremeSpectrum, Inc		

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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		DI WU, PREDRAG SPASOJEVIC, IVAN SESKAR, "Multipath Beamforming UWB Signal Design Based on Ternary Sequences", 40th Annual Allerton Conference, August 26, 2002, WINLAB, Rutgers University, Camden, New Jersey, USA.	
		HENNING F. HARMUTH, "Applications of Walsh functions in communications", IEEE Spectrum, November 1969, pgs. 82-91, USA.	
		ROBERT FLEMING, CHERIE KUSHER, "Integrated, Low-Power, Ultra-Wideband Transceivers for Distributed Position Location and Communication", Semi-Annual Technical Report Contract J-BFI-94-058, Aether Wire & Location, Inc. July 1995, Nicasio, CA, USA.	
		ROBERT FLEMING, CHERIE KUSHER, "Low-Power, Miniature, Distributed Position Location and Communication Device Using Ultra-Wideband, Nonsinusoidal Communication Technology", Semi-Annual Technical Report Contract J-BFI-94-058, Aether Wire & Location, Inc. July 1995, Nicasio, CA, USA.	
		FERNANDO RAMIREZ-MIRELES, ROBERT A. SCHOLTZ, "N-Orthogonal Time-Shift-Modulated Codes for Impulse Radio", Report from Joint Services Electronics Program Contract F 49620-94-0022, CTMC 1997, IEEE Wireless 98, July 1998, USA.	
		FERNANDO RAMIREZ-MIRELES, "On Performance of Ultra Wideband Signals in Gaussian Noise and Dense Multipath", Paper 99C265, Accepted for Publication in the IEEE Transactions on Vehicular Technology, USC Ultralab, USA.	
		ROBERT A. SCHOLTZ, P. VIJAY KUMAR, CARLOS J. CORRADA-BRAVO, "Signal Design for Ultra-Wideband Radio", Department of Electrical Engineering, University of Southern California, Los Angeles, CA, USA.	
		MOE Z. WIN, ZORAN A. KOSTIC, "Impact of Spreading Bandwidth on Rake Reception in Dense Multipath Channels", IEEE Journal on Selected Areas on Communications, Vol. 17, No. 10, pages 1794-1806, October 1999, USA.	
		MOE Z. WIN, GEORGE CHRISIKOS, NELSON R. SOLLENBERGER, "Performance of Rake Reception in Dense Multipath Channels: Implications of Spreading Bandwidth and Selection Diversity Order", IEEE Journal on Selected Areas on Communications, Vol. 18, No. 8, pages 1516-1525, August 2000, USA.	
		HENNING F. HARMUTH, "Frequency-Sharing and Spread-Spectrum Transmission with Large Relative Bandwidth", IEEE Transactions on Electromagnetic Compatibility, Vol. EMC-20, No. 1, February 1978, USA.	

Examiner Signature		Date Considered	
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**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		MULTISPECTRAL SOLUTIONS, INC., Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems" September 12, 2000.	
		ANNA SCAGLIONE, "Differential Direct Sequence Spread Spectrum for Ultra-Wideband Low Power Wireless Microsystems", University of New Mexico, Dept. of EECE, Albuquerque, NM, USA.	
		DAVID WRIGHT & RYAN WINFIELD-WOODINGS, An efficient 2.4 - GHz wireless net for less, EE Times, October 31, 2003, 3 pages.	
		SIEMENS & TEXAS INSTRUMENTS, Generalised Hierarchical Golay Sequence for PSC with low complexity correlation using pruned efficient Golay correlators, 6 pages.	
		ANUJ BATRA ET AL. & TEXAS INSTRUMENTS ET AL., Multi-band OFDM Physical Layer Proposal for IEEE 802.15 Task Group 3a, July 21, 2003, 71 pages.	
		DAVID CYPHER, Coexistence, Interoperability and Other Terms, September 2000, 18 pages.	

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